

Science

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Moons of Our Solar System

by Mick Roszel



Genre	Build Background	Access Content	Extend Language
Expository Nonfiction	• The Solar System • Planets and Moons • Moon Geography	• Diagrams • Captions and Labels • Glossary • Fact Box	• Word Meanings

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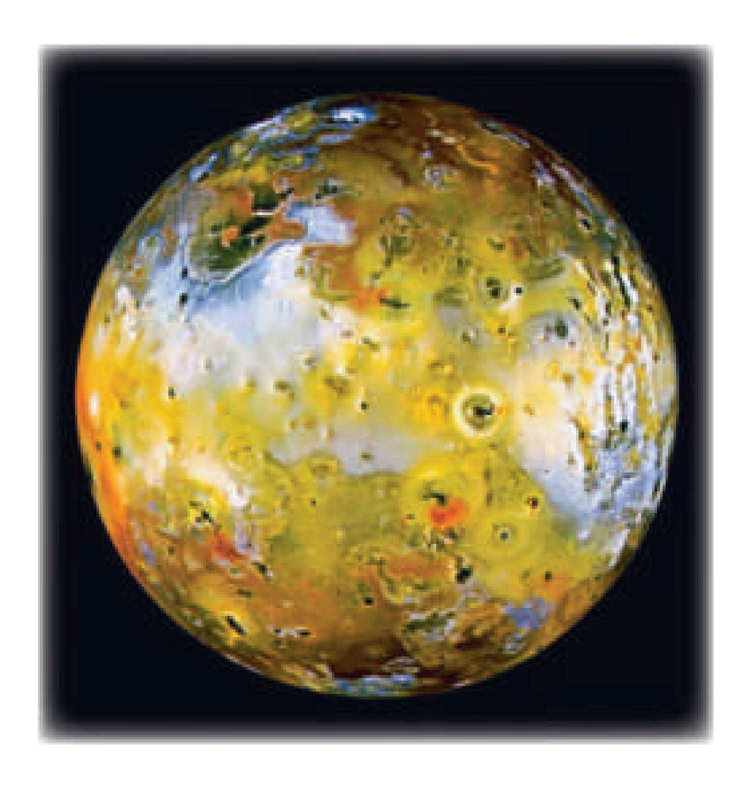






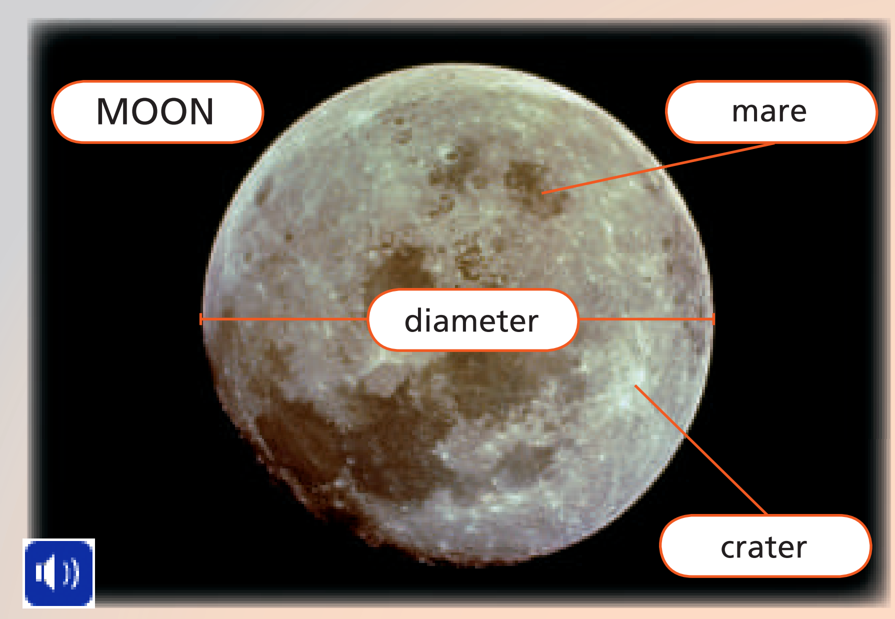
Moons of Our Solar System

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A mare is a large, open space covered with flat rock. The plural of mare is “maria.” The moon’s surface is covered with craters, mountains, and maria.



Earth’s Moon

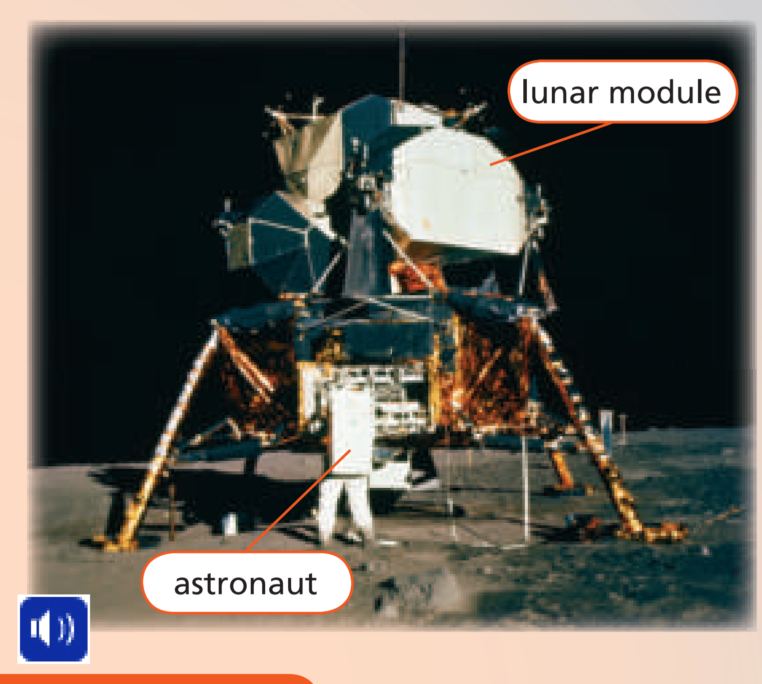
Look up in the sky at night, and you will see a round object. We call this object the “Moon.” We can use the word *moon* as its name because Earth has only one moon. A *moon* is any object that circles a planet as our Moon circles the Earth.

The diameter of our Moon is about 2,160 miles. The Moon’s crust, or surface, is made of rock. There is no atmosphere, or air, around the Moon. You could not breathe on the Moon without a spacesuit.

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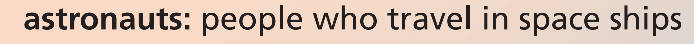
object: thing that can be seen and touched

diameter: a straight line from one side of a sphere (or ball) to the other side, through the center

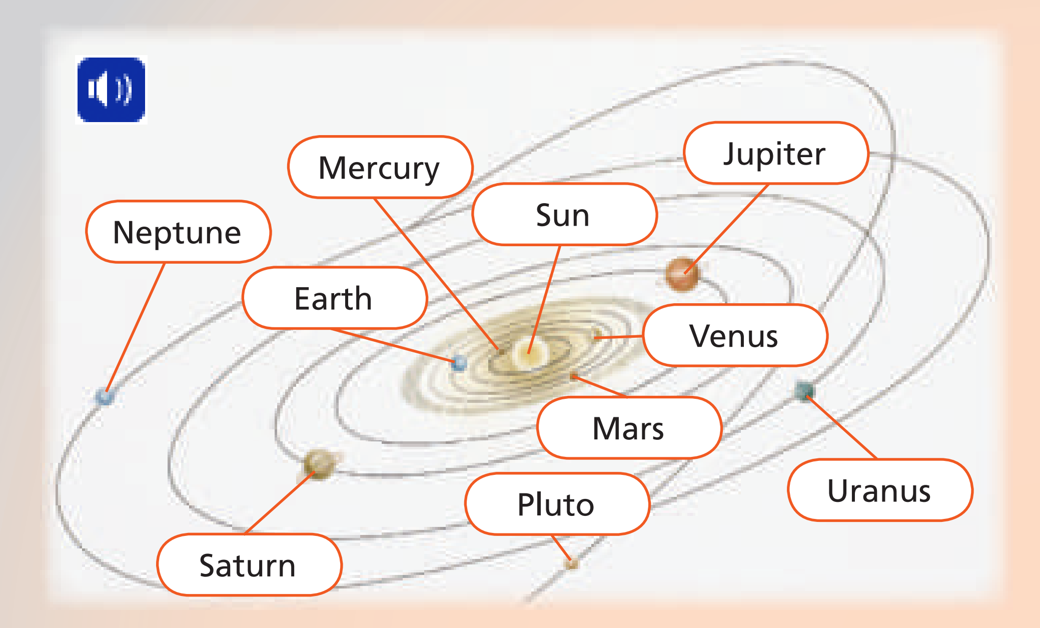


Did You Know? NASA

- In 1969, NASA sent three astronauts to the Moon. NASA is the National Aeronautics and Space Administration. It was formed in the United States in 1958 to study outer space. Scientists at NASA send spacecraft into space with cameras. Scientists study the photographs to learn about planets, moons, stars, and other objects in space. Sometimes, astronauts travel in the spacecraft.
- The three astronauts who went to the Moon in 1969 were Neil Armstrong, Buzz Aldrin, and Michael Collins. They traveled in a spacecraft named *Apollo 11.* While Michael circled the Moon, Neil and Buzz took a small lunar module to the Moon’s surface. They were the first two people to walk on the Moon.



astronauts: people who travel in space ships



Our Solar System

This diagram shows the nine planets in our solar system. It shows the planets going around the Sun. It does not show the distances between them. The planets are much further away from each other than they look here.

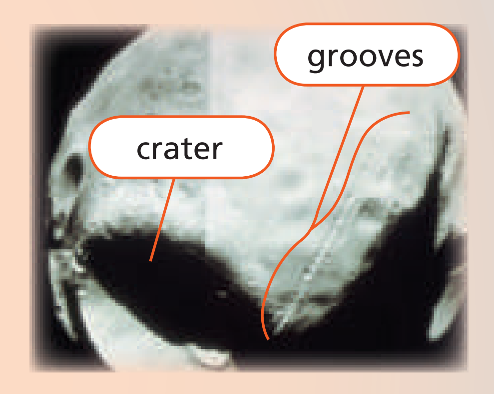
There are many moons in our solar system. Earth has just one moon. Mercury and Venus have no moons. Each of the other planets has one or more moons. Scientists give each moon its own name.

The Moons of Mars

Mars has two moons. The moons are called Phobos and Deimos. These moons are not round.

Astronauts would like to land space ships on Deimos and Phobos. Landing on Phobos might be hard. Phobos has thick dust on it. The dust is about a yard deep. That's about as high as your waist.

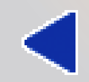
A huge crater covers much of Phobos. Craters are made when objects fly in from space and crash into the surface. A huge object must have hit Phobos! The impact probably made the grooves, or cracks, in Phobos, too.



The surface of Deimos is very smooth compared with the surface of Phobos.



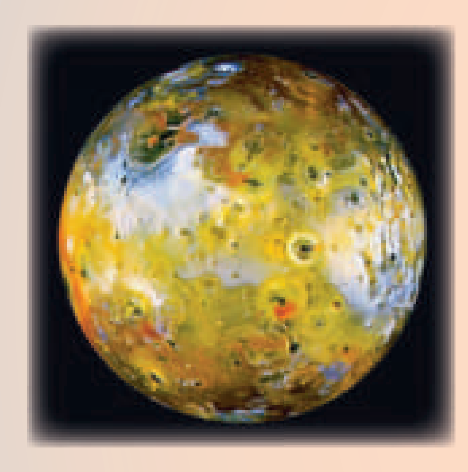
impact: crash; collision



Jupiter's Moons

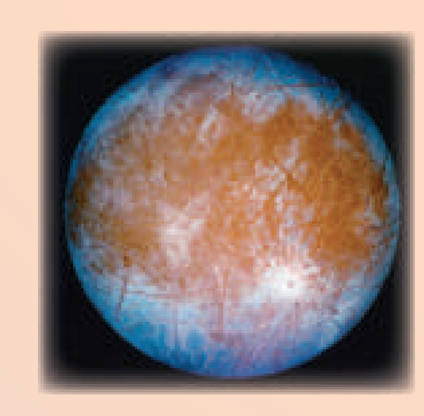
In 1610, Galileo, an Italian astronomer, discovered Jupiter's four largest moons: Io, Europa, Ganymede, and Callisto.

Ganymede is the largest moon in the solar system. It is bigger than two planets: Mercury and Pluto. Callisto is a little smaller. But Callisto has the largest impact crater in our solar system. The crater is over 370 miles wide.



Io is a little larger than our moon. Io is very colorful, and it is covered with active volcanoes. Scientists are very interested in Io.

Europa is a large, smooth, icy moon. Under Europa's icy crust, scientists believe there may be a living ocean of water. If there is an ocean, it may have life in it.



active volcanoes: mountains that explode with melted rocks, gases, and/or ice



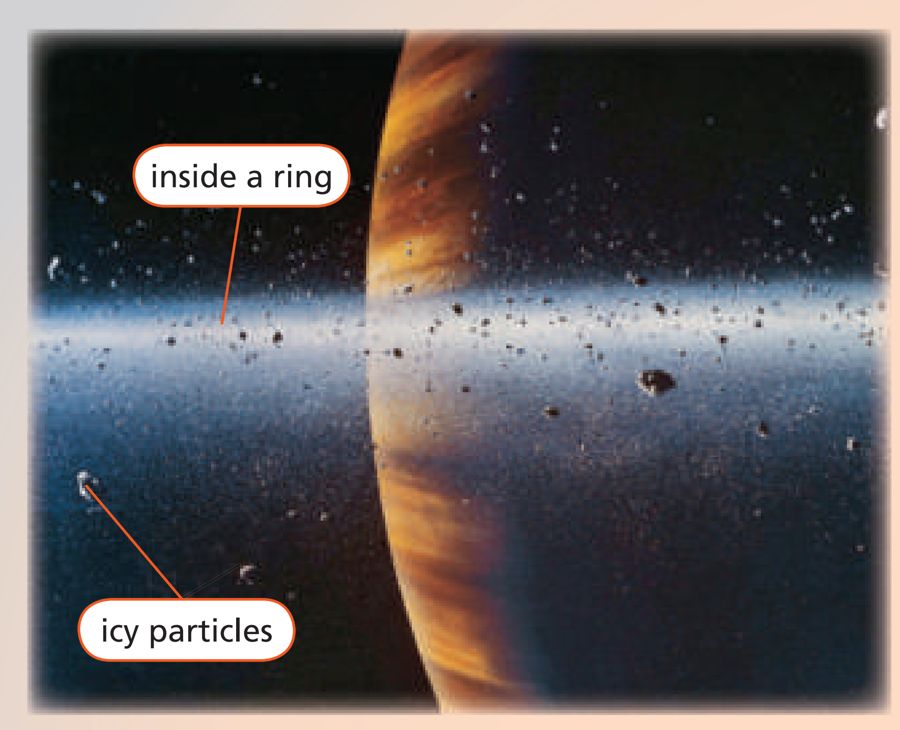


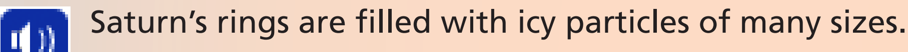
Adrastea is only twelve miles across. Another of Jupiter's moons is even smaller. Tiny Leda is less than ten miles across. Amalthea is 145 miles across. It is not round at all.

Scientists are still discovering moons around Jupiter. We already know of sixty-one moons, and there may be more!

Jupiter, like Saturn, Neptune, and Uranus, has rings around it. Saturn's rings are filled with rocks and ice, but Jupiter's rings are different. They are filled with dust. Scientists believe that the dust may come from Adrastea and other moons close to the planet.






Saturn's rings are filled with icy particles of many sizes.

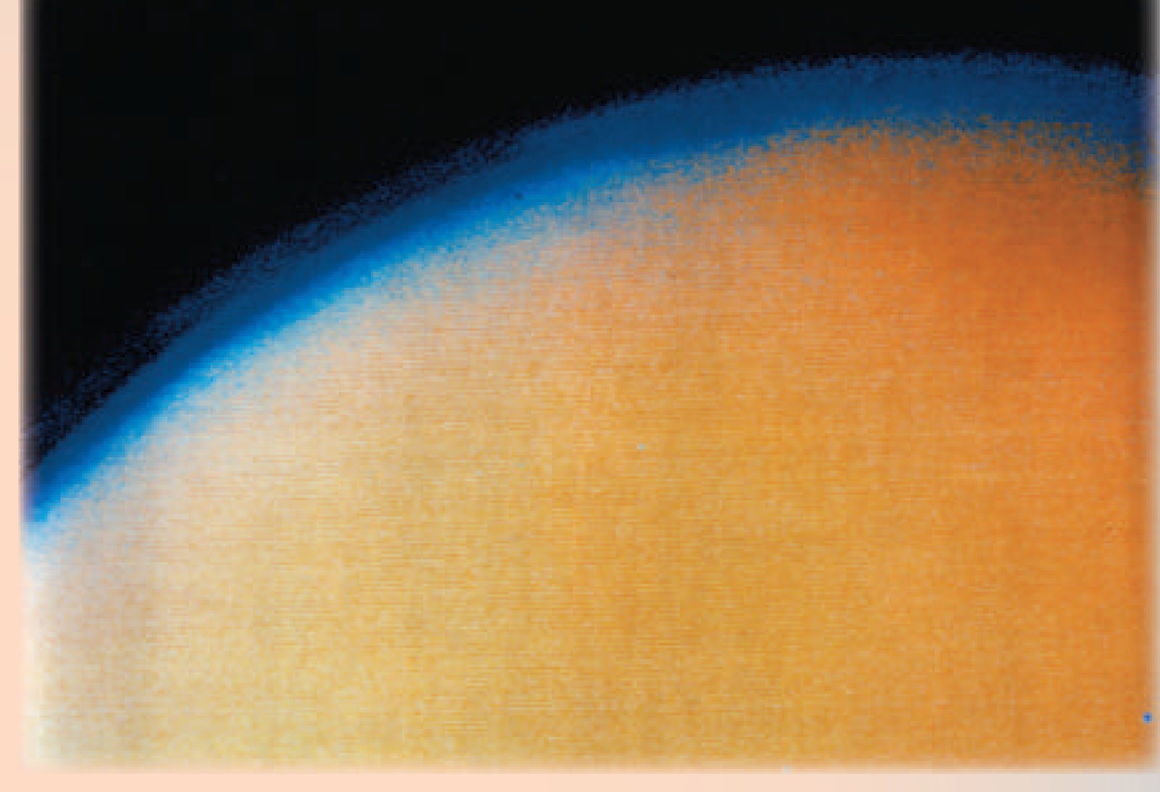
Saturn's Moons

Saturn has about thirty-three moons. Scientists keep finding more. On August 15, 2004, NASA announced the discovery of two new moons around Saturn. One of them is only two miles across! The other is about two and a half miles across. Many small towns are bigger than one of these moons!

Like Jupiter, Saturn has rings. Saturn's rings are filled with icy particles of many sizes. Imagine living on one of Saturn's moons. Your sky would be very interesting!

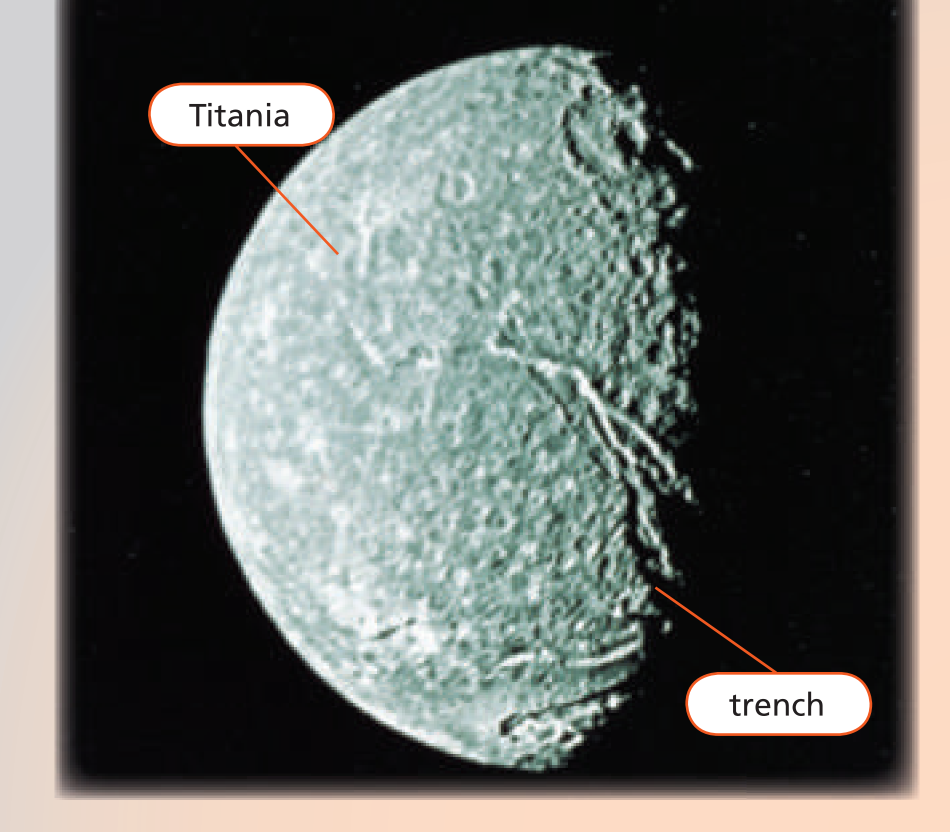
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particles: small pieces of rocks, ice, or other things


This is what Titan looks like under its thick layer of clouds.

Saturn's largest moon, Titan, is about 3,200 miles in diameter. That's the distance from Bangor, Maine, to San Diego, California.

Titan has a thick layer of clouds over it, so it's hard to get a good look at it. But scientists are excited about Titan. It may be the only moon in the solar system with clouds. Its thick atmosphere is like the air around a planet. It may even have weather. But don't plan to move there right away. It's very cold that far from the sun!



Moons of Uranus, Neptune, and Pluto

Scientists have found twenty-six moons circling Uranus and thirteen circling Neptune. So far, they have only discovered one moon orbiting Pluto.

The largest moon circling Uranus is Titania. Titania is mainly made of ice and rocks. Titania's surface is cut with deep trenches. The longest trench makes Earth's Grand Canyon look small!

Triton is Neptune's largest moon. At 400 degrees below zero, it may be the coldest place in the solar system. But scientists believe Triton has small volcanoes and maybe geysers!



geysers: springs that send water up out of the ground



Pluto is the runt of the solar system. It's smaller than Earth and Mercury. You might expect it to have a tiny moon. But Pluto's moon Charon is almost a third of the size of Pluto!

Your Own Moon

Imagine that you could design another moon for Earth. What would you name it? What would it be like? Would it be round like our moon, or an odd shape like Phobos? Would it be quiet like our moon, or covered with volcanoes like Io?

Describe a new moon for Earth, and draw a picture of it. Here are some things to consider:

- What is your moon's diameter?
- What shape is it?
- What color is it?
- What is the surface like?
- Does it have craters? How big?
- Does it have water or an icy crust?
- Does it have an atmosphere?
- Would it have air that humans can breathe?

Take a look at the glossary on the next page. It may give you ideas to use in a drawing or words to use in a description. Remember, it's your moon!

design: make plans for something that could be made



Glossary

at•mos•phere
(at′mə sfir), *NOUN*. the mixture of gases around a planet or moon

cra•ter
(krā′tər), *NOUN*. a large hole in the ground, shaped like a bowl

crust
(krust), *NOUN*. outer layer; the solid surface of a planet or moon

di•am•e•ter
(dī am′ə tər), *NOUN*. a straight line from one side of a sphere to the other, through its center

grav•i•ty
(grav′ə tē), *NOUN*. a force that causes objects in our world to fall toward Earth and that attracts objects in space toward each other

moon
(mün), *NOUN*. an object in space that circles a planet

or•bit
(ôr′bit), *VERB*. to travel around a planet or some other object in space

so•lar sys•tem
(sō′lər sis′təm), *NOUN*. the sun and all the planets and other bodies that revolve around the sun

sur•face
(sėr′fis), *NOUN*. the top layer

trench
(trench), *NOUN*. a long, narrow opening in the ground; a deep, narrow valley or canyon

vol•ca•no
(vol kā′nō), *NOUN*. a mountain that can explode with melted rocks and gases on Earth, and sometimes with ice on other planets

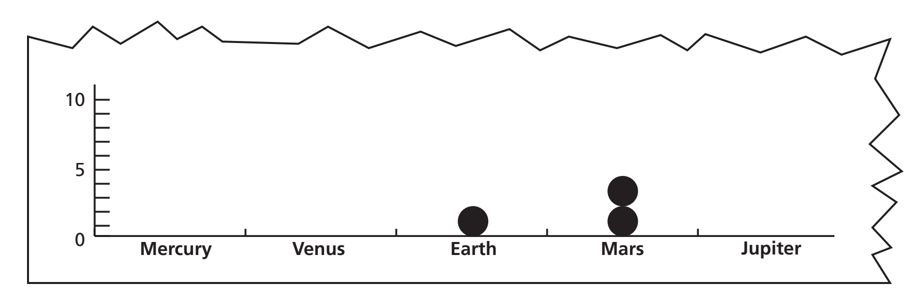


Talk About It

1. What is a moon?
2. Look at the diagram on page 4. Describe three things it shows about our solar system.

Write About It

3. How many moons does each planet have? Make a graph on a separate sheet of paper. Put one dot in the graph for each moon.



Extend Language

A *sphere* is a round object, shaped like a ball or a planet. In *sphere,* pronounce the *ph* like *f.* Which of the following things can be called a sphere?

the Earth's moon   a crater   a soccer ball   a coin

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ISBN: 0-328-14211-5

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